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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,945	03/30/2001	Michael Joseph Beranek	END920000146US1	8166

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EXAMINER	
BAUTISTA, XIOMARA L	

ART UNIT	PAPER NUMBER
2179	

DATE MAILED: 08/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/821,945	BERANEK ET AL.	
	Examiner	Art Unit	
	X L Bautista	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. **Claims 1-6 and 9-14 are rejected under 35 U.S.C. 102(a) as being anticipated by *Mitsuru Murakami et al* (article entitled Development of a Pointing Device Using EMG Signals, published in Japan, on 12 May 2000).**

Claims 1 and 9:

Murakami discloses a method and system for navigating in a window environment. The system includes a processor, a display, and a window environment (abstract; figs. 1-3). Murakami teaches a system that includes myoelectric signals (EMG) that when measured from surface electrodes can be used for a pointing device. Murakami explains that the EMG signal contains information on the operator's intended motion and the force level of the muscles,

and is suitable to an input signal to a new interface tool. Murakami's paper proposes a pointing device using EMG signals, and develops its prototype. It explains that it is shown from experiments that direction and velocity of a cursor can be controlled by using the EMG signals (abstract). Murakami illustrates in fig. 2 a control circuit coupled to a processor and a plurality of input circuits adapted to receive electromyographic signals.

Claims 2, 3, 10 and 11:

See claim 1. Murakami teaches a window environment software (graphical application) having an operating system having a graphical user interface (user can control a cursor in a display screen (abstract; figs. 1-3).

Claims 4 and 12:

See claim 1. Murakami teaches input circuits (fig. 2; abstract).

Claims 5 and 13:

Murakami teaches that users are enabled to control a pointing device; to input signals to an interface; and that velocity of a cursor can be controlled by using the EMG signals (and selection) (see click event signal in fig. 2; see directional navigation in fig. 1; see pointer control in fig. 3; abstract).

Claims 6 and 14:

See claim 1. Murakami teaches input circuits adapted to receive electromyographic signals from electrodes attached to a person (abstract; fig. 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7, 8, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Murakami* and *Toby Howard* (article entitled Controlling computers by thought, published in Personal Computer World magazine, on February 1999).

Claims 7 and 8:

See claim 1. Murakami teaches input circuits adapted to receive EMG signals. Murakami teaches that the electrodes are attached to the user (abstract; col. 4, lines 57-67). Murakami does not teach a chip having a plurality of electrodes connected to the input circuits. However, Howard discloses that researchers are implanting tiny electrodes into a person's brain for controlling computers by human thought (paragraphs 1-2). Howard explains that neurosurgeon Roy Bakay and his team have developed a brain implant that can monitor extremely small-scale activity in the brain's motor area. The implant is called a "neurotropic electrode that is inserted into the cerebral cortex of a person (paragraphs 3-4). The person learns to control the sound of a buzzer and then

learns to "think" the cursor on a computer screen from side to side (paragraph 6). The person can control the horizontal and vertical movements of a cursor, and select icons (paragraph 7). Therefore, it would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify Murakami's system to include Howard's teaching (neurosurgeon Roy Bakay and his team's neurotropic electrodes) of neurotropic electrodes and include them in a chip for enabling a user to control a cursor because signals are collected directly from the brain and can be exteriorized and used for the control of devices by people with severe physical handicap, and also for enabling patients to communicate with others through a computer by using synthesized speech, etc.

Claim 15:

See claims 1 and 7. Murakami/Howard teaches receiving neurotropic signals from a chip having neurotropic electrodes and a plurality of circuits coupled to a control circuit coupled to a signal processor (Murakami: abstract; figs. 1-3; Howard: page 1).

Claim 16:

See claim 15. Murakami/Howard teaches that users are enabled to control a pointing device for directional navigation and making selections Murakami: figs. 1-3; Howard: page 1, paragraph 7).

Claims 17 and 18:

See claims 1 and 7. Murakami/Howard teaches that signals may be

activated by a (thought) mental process (Murakami: abstract; Howard: page 1, paragraphs 1-2, 6-7).

Conclusion

6. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach systems using brain chips implanted into brains, EMG signals, and EMG electrodes for controlling computers.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to X L Bautista whose telephone number is (703) 305-3921. The examiner can normally be reached on Monday-Thursday (8:00-18:00), Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on (703) 308-5186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

X L Bautista
Patent Examiner
Art Unit 2179

xlb
13 August 2004